CLAIMS

What is claimed is:

1. A network comprising:

a plurality of network nodes;

a plurality of routing devices to route network traffics between selected ones of said network nodes; and

a director coupled to said routing devices to determine whether selected instances of source addresses of packets routed by said routing devices are spoof source addresses, based at least in part on one or more consistency measures.

2. The network of claim 1, wherein the director bases said determination on at least spatial distribution profiles of said source addresses, and in view of at least one reference source address spatial distribution profile.

3. The network of claim 2, wherein said at least one reference source address spatial distribution profile comprises at least a selected one of an exemplary spatial distribution profile for a non-spoof source address in general, and a historical spatial distribution profile for a particular source address.

4. The network of claim 1, wherein the director bases said determination on at least destination source address range (DSAR) distribution profiles of said source addresses, and in view of at least one reference DSAR distribution profile.

5. The network of claim 4, wherein said at least one reference DSAR distribution profile comprises at least a selected one of an exemplary DSAR distribution profile for a non-spoof source address in general, and a historical DSAR distribution profile for a particular source address.

6. The network of claim 1, wherein the director bases said determination on at least migration distribution profiles of said source addresses, and in view of at least one reference migration distribution profile.

7. The network of claim 6, wherein said at least one reference migration distribution profile comprises at least a selected one of an exemplary migration distribution profile for a non-spoof source address in general, and a historical migration distribution profile for a particular source address.

8. The network of claim 1, wherein the director bases said determination on at least timing distribution profiles of said source addresses, and in view of at least one reference source address timing distribution profile.

9. The network of claim 8, wherein said at least one reference source address timing distribution profile comprises at least a selected one of an exemplary timing distribution profile for a non-spoof source address in general, and a historical timing distribution profile for a particular source address.

10. The network of claim 1, wherein the director is further equipped to determine whether filtering actions are to be taken to filter out packets with source addresses

having instances deemed to be spoof source addresses, and if filtering actions are to taken, where among said routing devices, said filtering actions are to be taken.

11. The network of claim 10, wherein the director takes into consideration in making said where determination, where packets of non-spoof instances of a source address having instances deemed to be spoof source addresses are likely to be routed in said network.

12. The network of claim 1, wherein the director comprises a plurality of director devices cooperatively coupled to each other to jointly make said determination.

13. The network of claim 1, wherein the network further comprises a plurality of sensors, either integrally disposed in a subset of said routing devices or externally disposed and coupled to the subset of routing devices, to monitor and report on source addresses of packets routed through the subset of routing devices.

14. The network of claim 13, wherein the sensors are further equipped to facilitate application of desired source address based filtering on packets being routed through selected ones of said subset of routing devices.

15. A networking method comprising:

receiving information associated with source addresses of packets being routed to and from a plurality of network nodes of a network;

determining whether selected instances of said source addresses are spoof instances of said source addresses, based at least in part on one or more consistency measures; and

managing said network based at least in part on the results of said determination.

16. The method of claim 15, wherein said determination is made based at least in part on spatial distribution profiles of said source addresses, and in view of at least one reference source address spatial distribution profile.

17. The method of claim 16, wherein said determining comprises constructing said spatial distribution profiles of said source addresses.

18. The method of claim 16, wherein said determining comprises determining whether each of the spatial distribution profiles of the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address spatial distribution profile.

19. The method of claim 16, wherein said at least one reference spatial distribution profile comprises at least a selected one of an exemplary spatial distribution profile for a non-spoof source address in general, and a historical spatial distribution profile for a particular source address.

20. The method of claim 15, wherein said determination is made based at least in part on destination source address range (DSAR) distribution profiles of said source addresses, and in view of at least one reference DSAR distribution profile.

21. The method of claim 20, wherein said determining comprises constructing said DSAR distribution profiles of said source addresses.

22. The method of claim 20, wherein said determining comprises determining whether each of the DSAR distribution profiles of the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address DSAR distribution profile.

23. The method of claim 20, wherein said at least one reference DSAR distribution profile comprises at least a selected one of an exemplary DSAR distribution profile for a non-spoof source address in general, and a historical DSAR distribution profile for a particular source address.

24. The method of claim 15, wherein said determination is made based at least in part on migration distribution profiles of said source addresses, and in view of at least one reference migration distribution profile.

25. The method of claim 24, wherein said determining comprises constructing said migration distribution profiles of said source addresses.

26. The method of claim 24, wherein said determining comprises determining whether each of the migration distribution profiles of the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address migration distribution profile.

27. The method of claim 24, wherein said at least one reference migration distribution profile comprises at least a selected one of an exemplary migration

distribution profile for a non-spoof source address in general, and a historical migration distribution profile for a particular source address.

28. The method of claim 15, wherein said determination is made based on at least timing distribution profiles of said source addresses, and in view of at least one reference source address timing distribution profile.

29. The method of claim 28, wherein said determining comprises constructing said timing distribution profiles of said source addresses.

30. The method of claim 28, wherein said determining comprises determining whether each of the timing distribution profiles of the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address timing distribution profile.

31. The method of claim 28, wherein said at least one reference timing distribution profile comprises at least a selected one of an exemplary timing distribution profile for a non-spoof source address in general, and a historical timing distribution profile for a particular source address.

32. The method of claim 15, wherein said managing comprises determining whether filtering actions are to be taken in said network to filter out at least some packets having source addresses deemed to be having spoof instances, and if filtering actions are to be taken, where among a plurality of routing devices, said filtering actions are to be taken.

33. The method of claim 32, wherein said where determination comprises taking into consideration where packets of non-spoof instances of a source address having instances deemed to be spoof source addresses are likely to be routed in said network.

34. An apparatus comprising:

(a) a storage medium having stored therein a plurality of programming instructions designed to implement a director to receive reporting of information associated with source addresses of packets routed through a plurality of routing devices of a network, and to determine whether at least some instances of said source addresses are spoof instances; and

(b) a processor coupled the storage medium to execute the programming instructions.

35. The apparatus of claim 34, wherein said programming instructions are designed to make said determination based on at least spatial distribution profiles of said source addresses, and in view of at least one reference source address spatial distribution profile.

36. The apparatus of claim 35, wherein said programming instructions are designed to be able to construct said spatial distribution profiles of said source addresses.

37. The apparatus of claim 35, wherein said programming instructions are designed to be able to determine whether each of the spatial distribution profiles of

the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address spatial distribution profile.

38. The apparatus of claim 34, wherein said programming instructions are designed to make said determination based on at least destination source address range (DSAR) distribution profiles of said source addresses, and in view of at least one reference source address DSAR distribution profile.

39. The apparatus of claim 38, wherein said programming instructions are designed to be able to construct said DSAR distribution profiles of said source addresses.

40. The apparatus of claim 38, wherein said programming instructions are designed to be able to determine whether each of the DSAR distribution profiles of the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address DSAR distribution profile.

41. The apparatus of claim 34, wherein said programming instructions are designed to make said determination based on at least migration distribution profiles of said source addresses, and in view of at least one reference source address migration distribution profile.

42. The apparatus of claim 41, wherein said programming instructions are designed to be able to construct said migration distribution profiles of said source addresses.

43. The apparatus of claim 41, wherein said programming instructions are designed to be able to determine whether each of the migration distribution profiles of the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address migration distribution profile.

44. The apparatus of claim 34, wherein said programming instructions are designed to make said determination based on at least timing distribution profiles of said source addresses, and in view of at least one reference source address timing distribution profile.

45. The apparatus of claim 44, wherein said programming instructions are designed to be able to construct said timing distribution profiles of said source addresses.

46. The apparatus of claim 44, wherein said programming instructions are designed to be able to determine whether each of the timing distribution profiles of the source addresses is within a resemblance tolerance limit when compared to each of the at least one reference source address timing distribution profile.

47. The apparatus of claim 34, wherein said programming instructions are designed to be able to determine whether filtering actions are to be taken in said network to filter out at least some packets having source addresses deemed to be having spoof instances, and if filtering actions are to be taken, further determine where among a plurality of routing devices, said filtering actions are to be taken.

48. The apparatus of claim 47, wherein said programming instructions are designed to take into consideration where packets of non-spoof instances of a source address having instances deemed to be spoof source addresses are likely to be routed in said network, when making said where determination.